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# CLAIMS

1. A high-density optical disc, wherein data is encrypted, and the encrypted data is recorded in the data recording area according to a discontinuous recording format.

5        2. The high-density optical disc as set forth in claim 1, wherein the data is encrypted on the basis of synchronous data recorded in the data recording area.

      3. The high-density optical disc as set forth in claim 2, wherein the synchronous data is different from that recorded on  
10 a high-density rewritable optical disc.

      4. The high-density optical disc as set forth in claim 1, wherein the data is encrypted on the basis of address unit number information contained in the data recording area.

      5. The high-density optical disc as set forth in claim 4,  
15 wherein the address unit number information is different from that recorded on the high-density rewritable optical disc.

      6. The high-density optical disc as set forth in claim 5, wherein the address unit number information is produced by adding a specified value to an address unit number recorded on the  
20 high-density rewritable optical disc or subtracting the specified value from the address unit number recorded on the high-density rewritable optical disc.

      7. The high-density optical disc as set forth in claim 3 or 5, wherein the high-density rewritable optical density is a  
25 Blu-ray disc rewritable (BD-RE), and the high-density optical disc is a Blu-ray disc-read only memory (BD-ROM).

      8. The high-density optical disc as set forth in claim 1, wherein an address unit of the data recording area in which the data is recorded, contains disc radius information indicating  
30 a distance between the disc's inner periphery and a corresponding position.

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9. The high-density optical disc as set forth in claim 8, wherein the data is encrypted on the basis of the radius information contained in the address unit.

10. A method for encrypting data and recording the  
5 encrypted data on a high-density optical disc, comprising the steps of:

(a) encrypting data on the basis of synchronous data recorded on the high-density optical disc; and

(b) recording the encrypted data in a discontinuous  
10 recording format.

11. The method as set forth in claim 10, wherein the step (a) is carried out by encrypting the data on the basis of the synchronous data recorded in the data recording area immediately before the data is recorded.

15 12. A method for encrypting data and recording the encrypted data on a high-density optical disc, comprising the steps of:

(a) encrypting data on the basis of address unit number information recorded on the high-density optical disc; and

20 (b) recording the encrypted data in a discontinuous recording format.

13. The method as set forth in claim 12, wherein the step (a) is carried out by encrypting the data using all or part of the address unit number information.

25 14. A method for encrypting data and recording the encrypted data on a high-density optical disc, comprising the steps of:

(a) encrypting data associated with moving pictures on the basis of disc radius information recorded on the high-density  
30 optical disc; and

(b) recording the encrypted data in a discontinuous recording format.

15. The method as set forth in claim 14, wherein the disc

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radius information indicates a distance between the disc's inner periphery and a corresponding position, and is recorded in an address unit.

16. The method as set forth in any one of claims 10, 12 and 5 14, wherein the step (b) is carried out by recording the encrypted data in the discontinuous recording format corresponding to a high-density rewritable optical disc.

17. A method for reproducing encrypted data recorded on a high-density optical disc, comprising the steps of:

10 (a) searching for and reading synchronous data recorded on the high-density optical disc;

(b) decrypting encrypted data on the basis of the read synchronous data; and

(c) decoding the decrypted data to original signal, and 15 reproducing the original signal.

18. The method as set forth in claim 17, wherein the step (a) is carried out by encrypting the data on the basis of the synchronous data recorded in a data recording area immediately before the data is recorded.

20 19. The method as set forth in claim 17, wherein the step (b) is carried out by decrypting the encrypted data, recorded after the synchronous data has been recorded in the data recording area, using a decryption method corresponding to a predetermined encryption method on the basis of the read 25 synchronous data.

20. A method for reproducing encrypted data recorded on a high-density optical disc, comprising the steps of:

(a) searching for and reading address unit number information recorded on the high-density optical disc;

30 (b) decrypting encrypted data on the basis of the read address unit number information; and

(c) decoding the decrypted data to original signal, and reproducing the original signal.

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21. The method as set forth in claim 20, wherein the step (b) is carried out by decrypting the encrypted data using a decryption method corresponding to a predetermined encryption method on the basis of all or part of the read address unit number  
5 information.

22. A method for reproducing encrypted data recorded on a high-density optical disc, comprising the steps of:

(a) searching for and reading disc radius information recorded on the high-density optical disc;

10 (b) decrypting encrypted data on the basis of the read disc radius information; and

(c) decoding the decrypted data to original signal, and reproducing and processing the original signal.

23. The method as set forth in claim 22, wherein the step  
15 (b) is carried out by decrypting the encrypted data using a decryption method corresponding to a predetermined encryption method on the basis of the read disc radius information.